

Memorandum

To: MR. RAMIN RASHEDI
Division of Structure Design
Office of Bridge Design C

Attention: Mr. Gary Blakesley

Date: March 2, 2001

File: 11-SD-5-KP 49.2/49.3
11-0301U1

Retaining Wall No. 524

From: **DEPARTMENT OF TRANSPORTATION**
ENGINEERING SERVICE CENTER
Division of Structural Foundations - MS 5
Office of Structure Foundations

Subject: Final Revised Pile Data Table

A Request for a Final Revised Pile Data Table for Retaining Wall No. 524, from Mr. Gary Blakesley of the Division of Structure Design (DSD), was received by the Office of Structure Foundations (OSF) on February 22, 2001. Due to the discovery of grading information discrepancies, footing elevations of the retaining wall were revised to match current site conditions. OSF has verified specified pile tip elevations below to meet the newly revised wall bottom of pile footing elevations and stationing provided within the above Request (Blakesley, February 22, 2001). All other portions of the previous Revised Foundation Recommendations for Retaining Wall Nos. 524 and 525 (Pratt, December 20, 2000) remain unchanged if not revised below.

Final Revised Foundation Recommendations for Retaining Wall No. 524:

Retaining Wall No. 524 (a modified Type I retaining wall) is approximately 107.617 m (353.1 ft) in length and varies in height with an additional Type 25 Barrier (concrete) to be placed on top of the wall.

Steel H-piles [HP305X110 (HP12X74)], 400 kN (45 ton) design load, are recommended for wall support as indicated below. Heavier steel sections are recommended here due to anticipated hard driving conditions through cobble/gravel zones and very dense sand. Corrosive soils tested at the site require that additional sacrificial steel be provided to protect the structural integrity of the piles. The above heavier steel section, which is commonly used for 625 kN (70 ton) design load piles, contains the additional sacrificial steel required at the site. Predrilling of the embankment is required down to elevation +7.92 m (+26 ft) before pile installation.

Retaining Wall No 524

Wall LOL Station*	Bottom of Pile Footing Elevation m (ft)	Approximate Begin Pile Bearing Elevation m (ft)	Design Pile Tip Elevation m (ft)	Specified Pile Tip Elevation m (ft)
10+00 (Beg. Wall)	+21.575 (+70.8)	+3.05 (+10.0)	-7.01(1) (-23.0)(1)	-7.01 (-23.0)
10+15.2	+21.575 (+70.8)	+3.35 (+11.0)	-7.32(1) (-24.0)(1)	-7.32 (-24.0)
10+15.2	+20.95 (+68.7)	+3.35 (+11.0)	-7.32(1) (-24.0)(1)	-7.32 (-24.0)
10+25.7	+20.95 (+68.7)	+3.66 (+12.0)	-7.62(1) (-25.0)(1)	-7.62 (-25.0)
10+25.7	+19.975 (+65.5)	+3.66 (+12.0)	-7.62(1) (-25.0)(1)	-7.62 (-25.0)
10+46.1	+19.975 (+65.5)	+3.96 (+13.0)	-7.92(1) (-26.0)(1)	-7.92 (-26.0)
10+46.1	+19.425 (+63.7)	+3.96 (+13.0)	-7.92(1) (-26.0)(1)	-7.92 (-26.0)
10+60.0	+19.425 (+63.7)	+3.96 (+13.0)	-8.23(1) (-27.0)(1)	-8.23 (-27.0)
10+84.0	+19.425 (+63.7)	+4.27 (+14.0)	-8.23(1) (-27.0)(1)	-8.23 (-27.0)
10+90.8	+19.425 (+63.7)	+4.27 (+14.0)	-7.92(1) (-26.0)(1)	-7.92 (-26.0)
10+90.8	+19.725 (+64.7)	+4.27 (+14.0)	-7.92(1) (-26.0)(1)	-7.92 (-26.0)
11+07.617 (End Wall)	+19.725 (+64.7)	+4.27 (+14.0)	-7.62(1) (-25.0)(1)	-7.62 (-25.0)

Notes: *Interpolate between listed Wall LOL Stations to determine specified pile tip elevations for intermediate support locations.

Design tip elevation is controlled by the following demands:(1)Compression;(2)Lateral Loads

If pile tip elevation is controlled by lateral demands, the designer is responsible to present correct foundation data, governed by lateral control, on the foundation plans. OSF feels that alluvial soils may be potentially liquefiable above Approximate Begin Pile Bearing Elevation which is estimated to range from +3.05 to + 4.27 m (+10.0 to +14.0 ft). All elevations are based on the current metric NAVD 88 datum.

If you have any questions, please call Joe Pratt at (562) 864-5740 or Richard Fox at (916) 227-7085.

Report by:

Joseph S. Pratt

JOSEPH S. PRATT, C.E.G. No. 2141
Associate Engineering Geologist

c: R.E. Pending File
DBarlow - Specs & Estimates
OAlcantara - Proj Mgmt
Dist. 11 (2)
ELeivas - OSF
RFox - OSF
AAbghari - OGEE
LA File

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